

Installing the Camera

The following describes procedures for mounting the camera to a ceiling. Before installing the camera, set the IP address and other network information on the camera using the "VB Initial Setting Tool" on the Setup CD-ROM. For details on how to operate the "VB Initial Setting Tool," see "VB-M700F/VB-M600D/VB-M600VE Operation Guide".

1 Determine an installation position for the camera and drill holes in the ceiling

Use the bundled template to determine the positions of the fixing screw holes and wiring hole according to the camera orientation. Next, drill holes in the ceiling.

2 Loosen the three lock screws on the dome case and remove the dome case

VB-M600VE
Special temper-resistant screws are used for the dome case lock screws. Use the bundled dome case lock screw wrench.

3 Remove the inner cover

Remove the 4 pieces of tape that prevent lens rotation during shipping, and push the inner cover in the direction of the arrows to remove it. Then remove the 2 pieces of tape attached to the base of the lens.

4 Open the wiring hole according to the installation method

VB-M600D
Use a box cutter to cut a cross shape into the wiring hole cover in order to guide cables through. Do not remove the wiring hole cover.

VB-M600VE
Use a coin to unscrew the wiring hole cover from the side through which cables will be guided. Screw the wiring hole cover into the other wiring hole. You can fit a composite pipe (NPT 3/4 inch threaded hole) to the wiring hole.

5 Secure the safety wire

Securely attach the safety wire to an anchor or structure. After securing one end of the safety wire to the ceiling, secure the other end to the camera using the screw that is fastened to the camera.

6 Guide the LAN cable through the wiring hole

When using an external power supply, guide the power interface cable through the wiring hole. Guide the I/O interface cable and the audio interface cable (bundled) through the wiring hole if necessary.

Important
When using the AC adapter PA-V17 (optional), cut the cable tie and remove the ferrite core. Be sure not to damage the power cable when cutting the cable tie.

7 Fix the camera to the ceiling

Fix the camera at three points to the ceiling using the appropriate screws. Three ϕ 4.5 mm (ϕ 0.18 in.) ceiling fixing screw holes are located on the camera. You must provide screws that correspond to the ceiling fixing screw holes.

8 Wire the cables

Wire the cables referring to "Cable Wiring Method."

Important
When wiring is complete, seal the wiring hole to keep out insects and dust.

9 Attach the inner cover

Attach the inner cover to its original position.

10 Attach the dome case

Firmly fix the dome case at three points to the camera using the dome case screws.

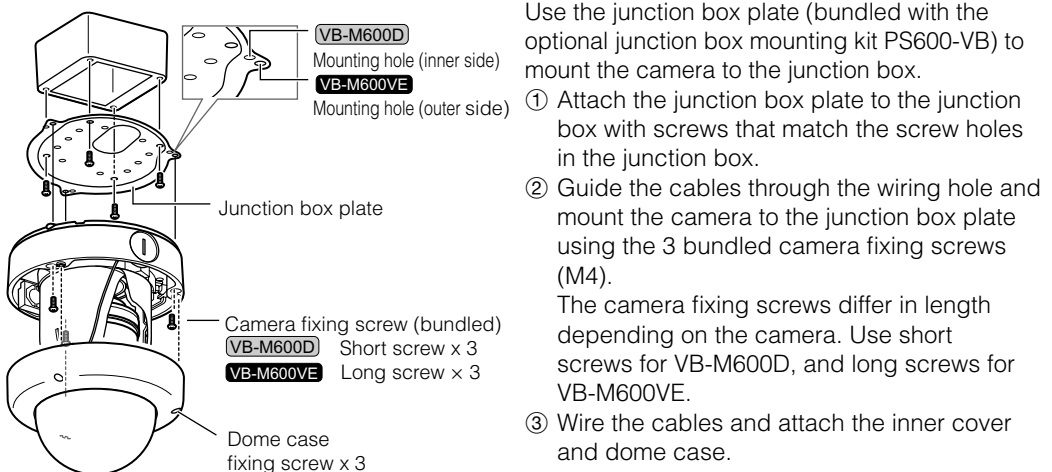
VB-M600D
If the cables cannot be stored above a ceiling made of concrete, etc., break the cutout section of the dome case using diagonal pliers to create a cutout through which to guide the cables.

Important VB-M600VE
When attaching the dome case, be sure not to pinch cables between the camera and dome case. Pinched cables may impair dust and waterproofing capabilities.

11 Set the camera angle

When installation is complete, use the Camera Angle Setting Tool to adjust the pan, tilt, rotation, zoom (and focus) (See "Camera Angle Setting Tool" in the "VB-M700F/VB-M600D/VB-M600VE Operation Guide").

Using a Junction Box



* Diagram of VB-M600VE.

Using an SD Memory Card

Inserting the card
Push the SD memory card as far as possible into the SD card slot with the label facing outward.

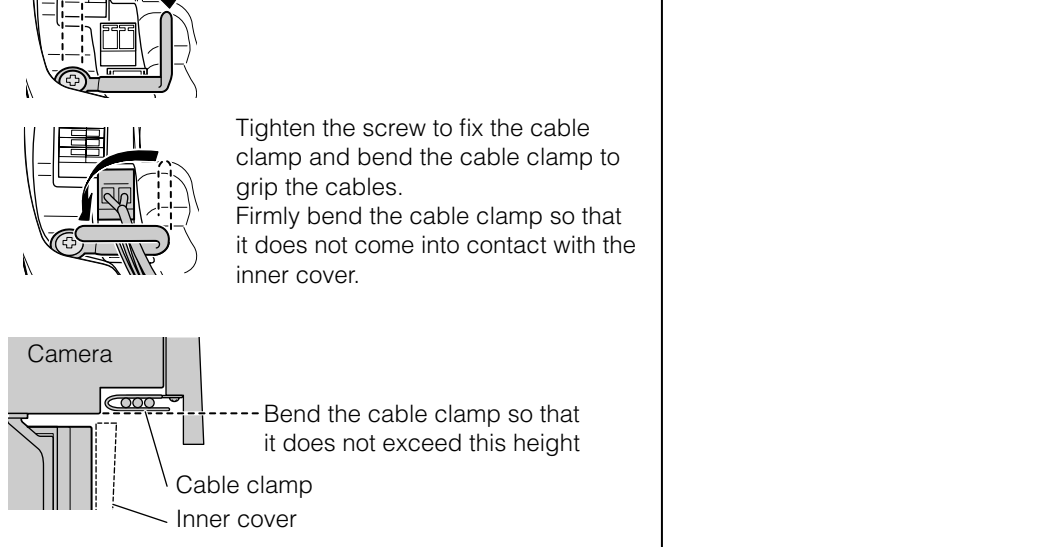
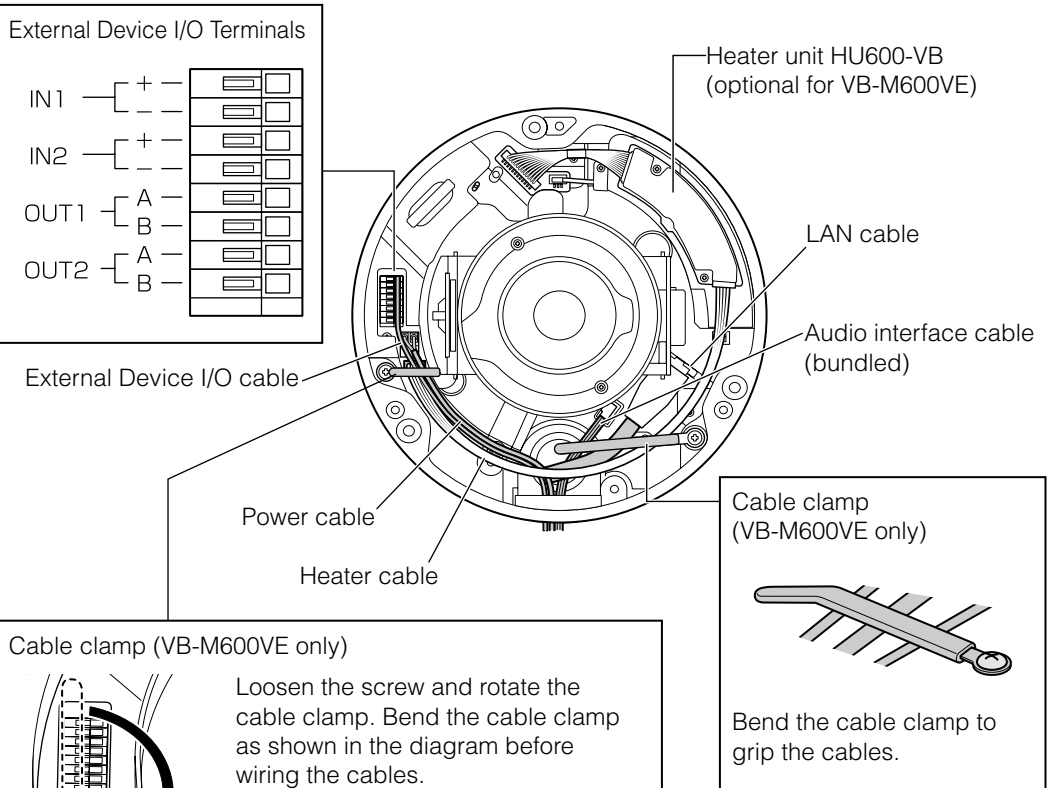
Removing the card
Push the SD memory card in all the way until the card slightly pops out. Pinch the card and remove.

Important

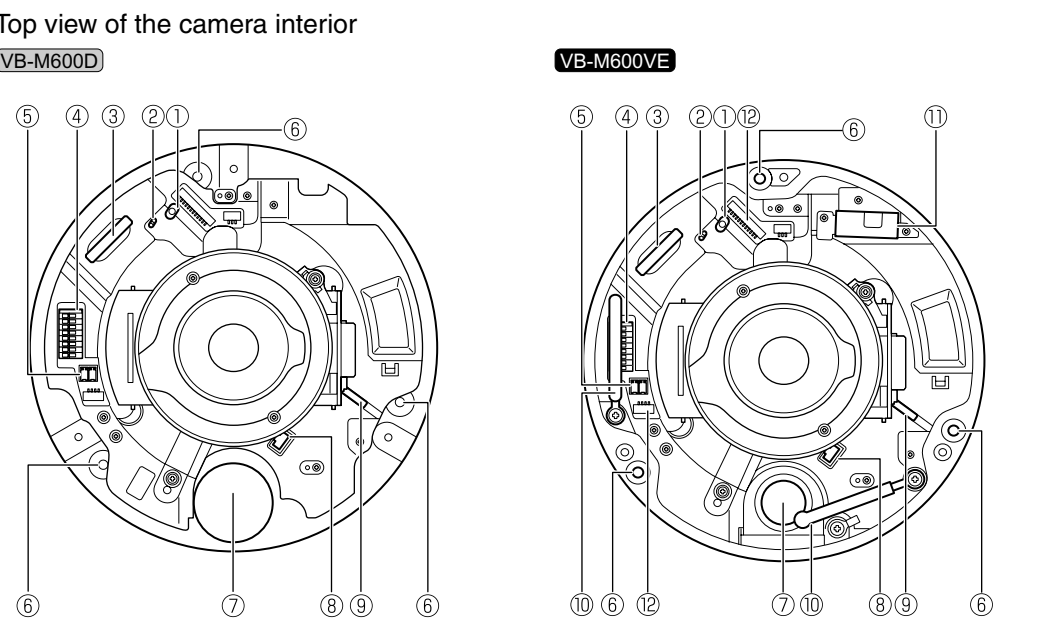
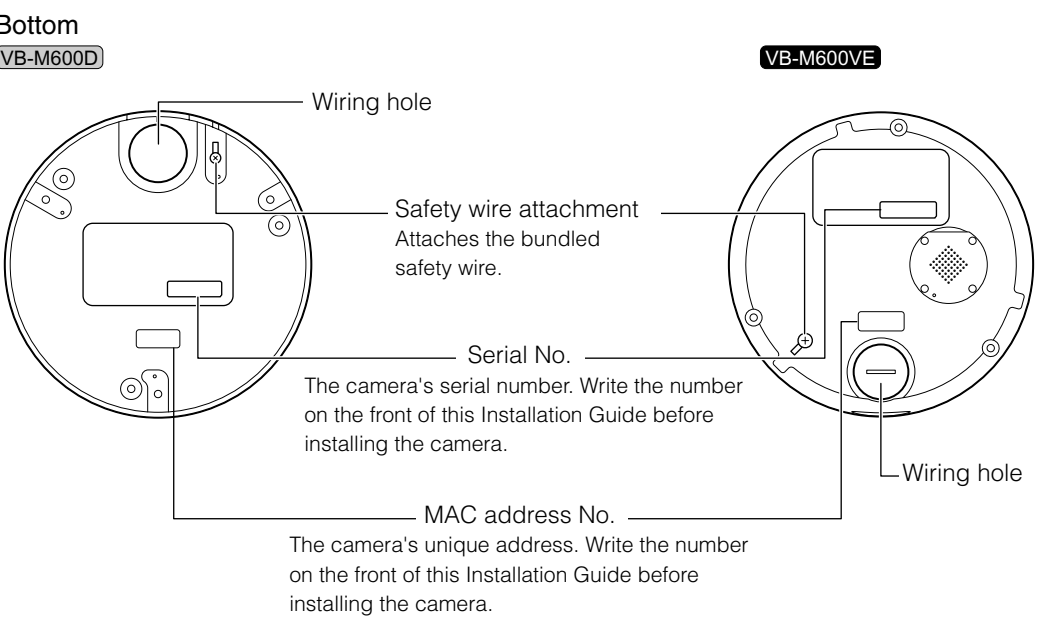
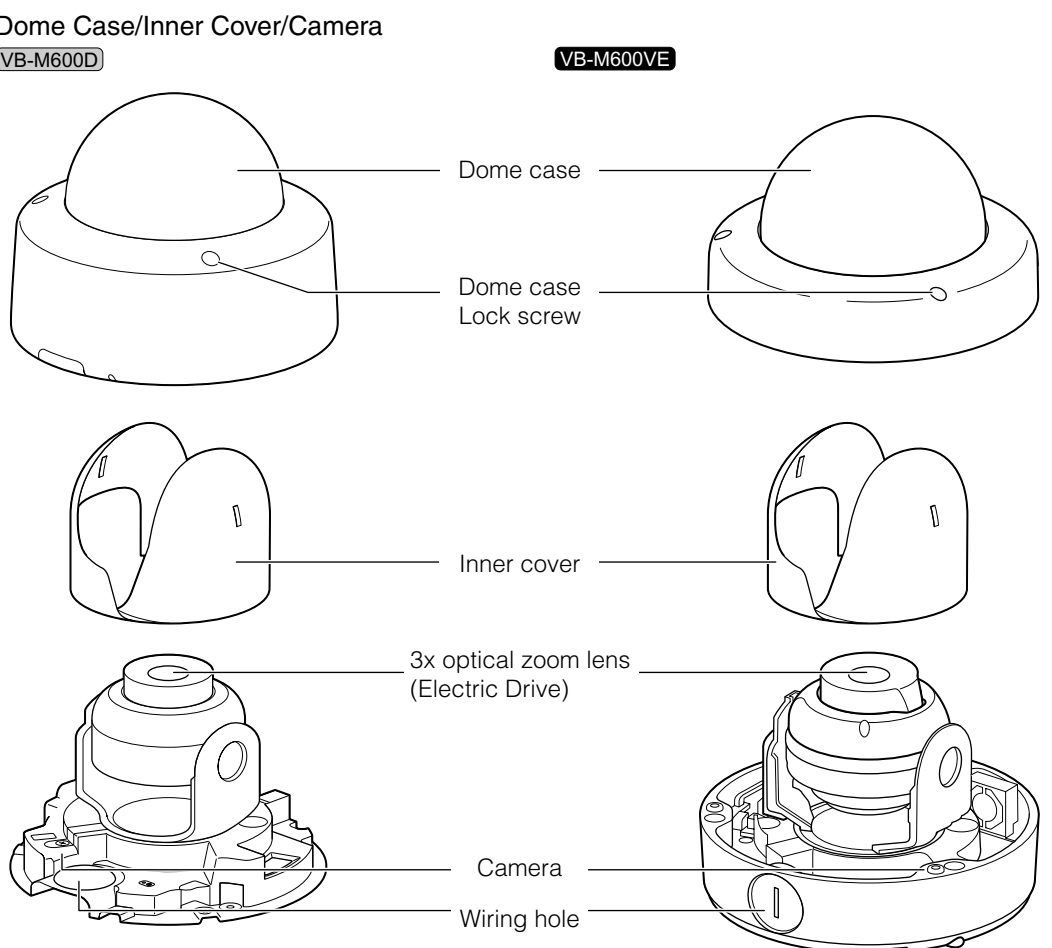
- Make sure the SD memory card isn't write-protected.
- When using an SD memory card with the camera for the first time, it is recommended to format the card after inserting it into the camera (see "Memory Card" in "Setting Page" in the "VB-M700F/VB-M600D/VB-M600VE Operation Guide").
- Insert the SD memory card before attaching the dome case.

Cable Wiring Method

For VB-M600VE, secure the various cables with the cable clamps fastened to the camera to prevent damage to cables or connectors due to vibration, etc. *The diagram is a wiring example for VB-M600VE.



Part Names



① Reset switch
Turn on the power while pushing this switch using a sharp object. Continue to push the switch for 5 seconds or more to restore all factory settings except for the date and time.

② LED
The blue LED light comes on.
On: When powered on, during reboot
Off: During normal use

③ SD card slot

④ External device I/O terminals

⑤ Power connection terminal

⑥ Installation screw holes
Used when securing the camera to the installation surface, the junction box mounting kit (optional), or the recessed mounting kit (optional).

⑦ Wiring hole

⑧ Audio I/O terminal
Connect the bundled audio interface cable here to connect audio input and output devices to the camera.

⑨ 100BT LAN connector
100Base-TX support PoE power supply (IEEE802.3af compliant)

⑩ Cable clamps (VB-M600VE only)

⑪ Fan (VB-M600VE only)

⑫ Heater connection terminal

Connecting the Camera

Power Connection
Power can be supplied to the camera in the three ways described below.

PoE (Power over Ethernet)
The camera supports PoE functions. Power can be supplied to the camera by using a LAN cable to connect it to a PoE HUB that conforms to the IEEE 802.3af standard.

Important

- Check with your Canon sales representative for more information about PoE HUB and Midspan technology.
- Some PoE HUBs allow current limits for each port, but applying limits may interfere with performance. If using this type of PoE HUB, do not limit the operating current.
- Some PoE HUBs have total conduction current limits for ports, which can interfere with performance when multiple ports are in use. For more information, check the instruction guide for your PoE HUB.
- Use a category 5 or higher cable 100 m (328 ft.) or less in length for the LAN cable that connects the camera and the PoE HUB.
- When the camera is connected to a switching HUB, changing the connection while the camera is operating may cause the HUB learning function to interfere with communication. Do not change the connection when the camera is operating.
- The camera can also be connected to an AC adapter (optional) while receiving power from a PoE HUB. In such cases, the PoE power supply is given priority, and the camera does not use the power supply from the AC adapter (optional). When the PoE power supply is disconnected, power is supplied automatically from the AC adapter (optional). Midspan (a LAN cable power supply device) is a device that, like a PoE HUB, supplies power to the camera via a LAN cable.

External Power Supply
12 VDC or 24 VAC input can be used. Connect the bundled power connector as shown below.

For 12 VDC and 24 VAC input, use a power supply insulated from 100 VAC. 12 VDC can be connected in a non-polar configuration.

Important

- The power supply should be within the following voltage range.
- 24 VAC: Voltage fluctuation within 10% of 24 VAC (50 Hz or 60 Hz \pm 0.5 Hz or less)
Current supply capacity of at least 1.0 A per camera
- 12 VDC: Voltage fluctuation within 10% of 12 VDC
Current supply capacity of at least 1.5 A per camera
- When using a 12 VDC battery power supply, be sure to connect resistors of at least 0.5 – 1.0 Ω /20 W in series to the power line.
- For an external power supply, use a double-insulated device.

Recommended Power Cables for VB-M600D/VB-M600VE [Reference]		24	22	20	18	16
Cable (AWG)						
Conductor diameter	mm (in.)	ϕ 0.52 (ϕ 0.020)	ϕ 0.65 (ϕ 0.026)	ϕ 0.82 (ϕ 0.032)	ϕ 1.03 (ϕ 0.041)	ϕ 1.30 (ϕ 0.051)
12 VDC maximum cable length	m (ft.)	5 (16.4)	9 (29.5)	14 (45.9)	23 (75.5)	32 (105.0)
24 VAC maximum cable length	m (ft.)	11 (36.1)	18 (59.1)	29 (95.1)	46 (150.9)	64 (210.0)

Use UL cable (UL-1015 or equivalent) for 12 VDC or 24 VAC wiring.

AC Adapter
Use the dedicated AC adapter PA-V17 (optional).

Note

- The camera does not have a power switch. Connecting and disconnecting the LAN cable (PoE power supply), AC adapter, or external power supply plug turns the power ON and OFF, respectively.
- When the camera needs to be rebooted, perform the reboot operation from the camera setting page (see "Maintenance" in "Setting Page" in the "VB-M700F/VB-M600D/VB-M600VE Operation Guide").
- When using the heater unit HU600-VB (optional), use 24 VAC for the VB-M600VE power supply. Poe, 12 VDC and the AC adapter cannot be used.

External Device I/O Terminals

External device I/O terminals consist of two input and output systems each. VB-M600 Viewer and RM Viewer can be used to check external device input status and control output to an external device (see "Operating the External Device Output" and "Displaying Event Status" in the "VB-M700F/VB-M600D/VB-M600VE Operation Guide").

External Device Input Terminals (IN1, IN2)
External device input terminals consist of two sets (IN1, IN2) of two terminals, with the negative terminal connected to the camera interior GND. Connect two cables to the positive and negative terminals. When electrical continuity or insulation is created between the terminals, the viewer will be notified of either status.

Important

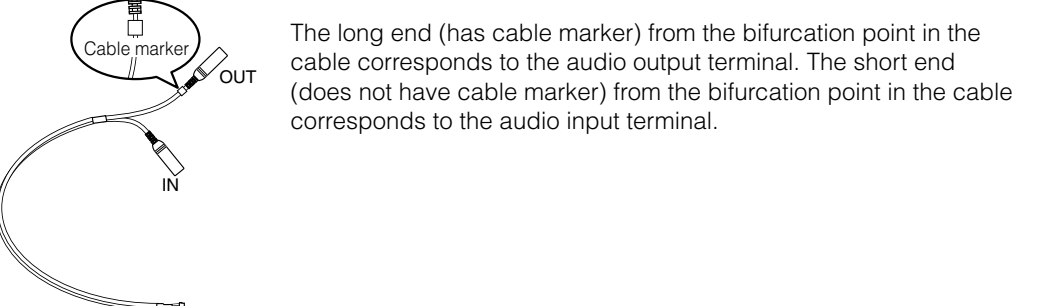
- When connecting sensors and switches, connect terminals that are electrically isolated from the respective power and GND.
- Do not push the external device I/O terminal button with too much force. Doing so may cause the button to remain pushed-in.

External Device Output Terminals (OUT1, OUT2)
External device output terminals consist of two sets (OUT1, OUT2) of two terminals. The sets have no polarity. Controls from the viewer can be used to switch between electrical continuity and insulation from one terminal to the next. Using optical couplers, the output terminals are isolated from the camera's internal circuit.

The load connected to the output terminals should be within the following rating range. Rating between output terminals:
Maximum voltage 50 VDC
Continuous load current at or below 100 mA

Note
Adaptive wiring for external device cables
Solid conductor AWG: No. 28 – 22
Conductor size: ϕ 0.32 – ϕ 0.65 mm (ϕ 0.013 – ϕ 0.026 in.)
Cable strip should be approx. 8 – 9 mm (0.31 – 0.35 in.).

Audio Input/Output Terminals
Each audio input/output terminal has one input system and one output system. Connecting the camera to an audio input/output device such as a microphone or a speaker with an amplifier allows you to send/receive audio through the viewer. Use the bundled audio interface cable to connect audio input/output devices to the camera. Use the ϕ 3.5 mm (ϕ 0.14 in.) monaural mini-jack connector to connect an audio output device with the audio interface cable.



Audio Input Dual LINE IN/MIC IN (monaural input)
Although the camera has a single audio input system, it supports two types of microphone input: LINE IN and MIC IN. Before using the audio input, change the [Audio Input] on the Setting Page (see "Audio Input" in the "VB-M700F/VB-M600D/VB-M600VE Operation Guide"). LINE IN is selected by default.
Input terminal: ϕ 3.5 mm (ϕ 0.14 in.) mini-jack (monaural)
• Dynamic MIC IN
Input impedance: 1.75 k Ω \pm 20%
• Supported microphones: Output impedance: 400 Ω – 600 Ω
• Condenser MIC IN
Input impedance (microphone bias resistance): 2.2 k Ω \pm 20%
Microphone power supply: plug-in power (voltage: 1.8 V)
• Supported microphones: Condenser microphones with plug-in power support
• LINE IN
Input level: Max. 1 Vp-p
* Use a microphone with an amplifier.

Audio Output Terminal LINE OUT (monaural output)
Connect the camera to a speaker with an amplifier. Audio can be sent to the speaker from RM Viewer.
Output terminal: ϕ 3.5 mm (ϕ 0.14 in.) mini-jack (monaural)
Output level: Max. 1 Vp-p
* Use a speaker with an amplifier.

Important

- Using the wrong settings in [Audio Input] may damage the camera and/or microphone. Be sure to configure settings correctly.
- Microphone characteristics may affect volume and sound quality.
- Use RM Viewer to send audio to the speaker. VB-M600 Viewer cannot be used to send audio.
- Images and audio do not always synchronize properly.
- Audio may be interrupted depending on PC characteristics and network environment.
- Images and audio can be distributed to up to 30 clients. However, audio may be interrupted when distributing to many clients.
- Audio may be interrupted when using antivirus software.
- Connecting and disconnecting the LAN cable interrupts the audio. Use the viewer to reconnect.